
**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX AIR DIVISION**

Technical Support Document
For
EPA's Direct Final Rulemaking
For the
California State Implementation Plan

Mojave Desert Air Quality Management District,
Rule 1117, Graphic Arts and Paper, Film, Foil and Fabric Coatings

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October, 2011

Agency: Mojave Desert Air Quality Management District
(MDAQMD)

SIP Approved Rule: Rule 1117 – Graphic Arts
Adopted – June 22, 1994
Submitted – July 13, 1994
EPA Approved - April 30, 1996 (61 FR 18962)

Subject of this TSD: Rule 1117 – Graphic Arts and Paper, Film, Foil and
Fabric Coatings
Amended – September 28, 2009
Submitted – July 20, 2010

RULE SUMMARY - MDAQMD Rule 1117, Graphic Arts and Paper, Film, Foil and Fabric Coatings, was amended both in response to the California Health and Safety Code §40702 and to the requirement of areas designated non-attainment and classified moderate to implement RACT as defined by the Control Technology Guidelines (CTG) for “major sources” of Volatile Organic Compounds (VOCs) and Nitrous Oxide Compounds (NOx). The modifications to Rule 117, Graphic Arts include:

1. Changed the title from *Graphic Arts* to *Graphic Arts and Paper, Film, Foil and Fabric Coatings*.
2. Revised the Applicability and Purpose sections to include additional paper, film, foil and fabric coating categories.
3. Updated definitions to make the rule more comprehensive, clear and applicable.
4. Added VOC limits for several new categories of coatings and solvents and overall capture and control efficiencies for main processes.
5. Included new application and solvent cleaning methods.
6. Added work practice requirements as defined in the CTGs.
7. Changed exemptions from a minimum VOC emission basis to specific graphic processes, like digital printing operations, and minimum quantities of inks.
8. Revised monitoring and recordkeeping to address specific types of materials and processes.
9. Added test methods for specific content and for transfer, capture and control efficiencies.
10. Added an overall violation provision when multiple test methods are employed and there is a violation of one method.

EPA EVALUATION - The following criteria were used to evaluate the submitted rule.

1. Enforceability - The Bluebook (*Issues Relating to VOC Regulation Cutpoints, Deficiencies, and Deviations*, EPA, May 25, 1988), the Little Bluebook (*Guidance Document for Correcting Common VOC & Other Rule Deficiencies*, EPA Region 9, August 21, 2001), and *State Implementation Plans, General Preamble for the Implementation of Title I of the Clean Air*

Amendments of 1990 (57 FR 13498, April 16, 1992) were used to help evaluate compliance with the CAA §110(a)(2)(A) requirement for enforceability.

2. Stringency –The EPA’s CTG titled *Flexible Package Printing* (EPA 453/R-06-003, September 2006); CTG titled *Offset Lithographic Printing and Letterpress Printing* (EPA 453/R-06-002, September 2006); CTG titled *Paper Film and Foil Coatings* (EPA 453/R-07-003, September 2007); OAQPS Guideline titled *Control of VOCs from Existing Stationary Sources – Volume II: Surface Coating of Cans, Coils, Paper, Fabric s, Automobiles and Light-Duty Trucks* (EPA 450/2-77-008, May 1977); OAQPS Guideline titled *Control of VOCs from Existing Stationary Sources – Volume VIII: Graphic Arts-Rotogravure and Flexography* (EPA 450/2-78-033, December 1978) and CTG titled *Industrial Cleaning Solvents* (EPA 453/R-06-001, September 2006) and other districts’ analogous rules for this category were used as the basis for RACT including: San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) Rule 4607, *Graphic Arts and Paper, Film, Foil and Fabric Operations* amended December 18, 2008, Bay Area Air Quality Management District (BAAQMD) Rule 8-20, *Graphic Arts Printing and Coating Operations*, amended November 19, 2008 and Sacramento Metropolitan Air Quality Management District (SMAQMD) Rule 450, *Graphic Arts Operations*, revised October 23, 2008.
3. SIP Relaxation – CAA §110(l) prohibits EPA from approving any SIP revision that would interfere with any applicable requirement concerning attainment and reasonable further progress (RFP) or any other applicable requirement of the CAA. In addition, CAA §193 prohibits the modification of any SIP-approved control requirement in effect before November 15, 1990, in a nonattainment area.

Enforceability - The testing, recordkeeping, monitoring and other rule requirements, along with the additional caveat for multiple test methods, generally ensure that the submitted rule can be enforced.

Stringency – Rule 1117 is generally as stringent as the relevant CTGs and analogous rules in other nonattainment areas that we have approved as RACT (74 FR 52894). Therefore, we believe Rule 1117 also fulfils CAA RACT requirements for affected sources.

SIP Relaxation – The District has lowered the limits for several categories of graphic arts inks, coatings and adhesives and has increased the overall capture and control efficiency for all processes. We propose to determine that our approval of the submittal would comply with CAA §110(l) because the amended rule is more stringent than the rule previously approved into SIP and would not interfere with the ongoing process for ensuring that requirements for RFP and attainment of the NAAQS are met.

EPA ACTION - EPA staff recommends a full approval of Rule 1117 pursuant to CAA §110(k) (4) and §301(a).

ADDITIONAL RECOMMENDATIONS FOR THE NEXT RULE REVISION –

1. Section B, Definitions:
 - a. Subsection (20) – “Doctor Blade” – Consider removing the word “steel” as there are doctor blades that are not steel.
 - b. Subsection (25) – Please correct spelling error in the word “Electrophotography”
 - c. Subsection (27) - “Exempt Compound” - Consider adding “VOC” or, as SJVUAQMD has done, adding “Organic” before “Compound” to more succinctly describe the exempt compound.
 - d. Subsection (56) – “Liquid Leak” should apply to all coatings, ink and solvents. Consider deleting the word “Solvent” to more accurately describe a liquid leak. This will also make the definition of “Non-Leaking Container” in subsection (68) more comprehensive.
 - e. Subsection (110) “Wash Primer” – For clarity, please rephrase the definition to: “A material that contains no more than 5 percent, by weight, solid materials, and that is used to clean and/or to activate surfaces of paper or fabric.”
2. Section F, Test Methods:
 - a. Subsection (2) – Please add the date December 13, 1991 to ARB Method 422.
 - b. Subsection (4) - Please revise SCAQMD Test Method 318 to Test Method 318-95 and add the date, July 1996, after the title. Additionally, please note that the use of this method for metals other than aluminium requires validation.

ADDITIONAL REFERENCES -

1. MDAQMD Rule 1117, Graphic Arts and Paper, Film, Foil and Fabric Coatings, as submitted on July 20, 2010.
2. MDAQMD Rule 1117, Graphic Arts, adopted June 22, 1994.
3. SJVUAPCD Rule 4607, Graphic Arts and Paper, Film, Foil and Fabric Operations amended December 18, 2008
<http://www.valleyair.org/rules/currentrules/r4607.pdf>
4. BAAQMD Rule 8-20, Graphic Arts Printing and Coating Operations, amended November 19, 2008.
<http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/Rule%20and%20Regs/reg%2008/rq0820.ashx?la=en>
5. SMAQMD Rule 450, Graphic Arts Operations, revised October 23, 2008.
<http://www.airquality.org/rules/rule450.pdf>

6. "Control Techniques Guidelines for Industrial Cleaning Solvents," EPA 453/R-06-001, September 2006
http://www.epa.gov/ttn/naaqs/ozone/ctg_act/200609_voc_epa453_r-06-001_ind_cleaning_solvents.pdf
7. "Control Techniques Guidelines for Offset Lithographic Printing and Letterpress Printing," EPA 453/R-06-002, September 2006.
http://www.epa.gov/ttn/naaqs/ozone/ctg_act/200609_voc_epa453_r-06-002_litho_letterpress_printing.pdf
8. "Control Techniques Guidelines for Flexible Package Printing," EPA 453/R-06-003, September 2006.
http://www.epa.gov/ttn/naaqs/ozone/ctg_act/200609_voc_epa453_r-06-003_flexible_package_printing.pdf
9. "Control Techniques Guidelines for Paper Film and Foil Coatings," EPA 453/R-07-003, September 2007
http://www.epa.gov/ttn/naaqs/ozone/ctg_act/200709_voc_epa453_r-07-003_paper_film_coating.pdf
10. OAQPS Guideline "Control of VOCs from Existing Stationary Sources – Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles and Light-Duty Trucks," EPA 450/2-77-008, May 1977
[http://www.epa.gov/ttn/naaqs/ozone/ctg_act/197705_voc_epa450_2-77-008_surface_coatings\(v2\).pdf](http://www.epa.gov/ttn/naaqs/ozone/ctg_act/197705_voc_epa450_2-77-008_surface_coatings(v2).pdf)
11. OAQPS Guideline "Control of VOCs from Existing Stationary Sources – Volume III: Graphic Arts-Rotogravure and Flexography," EPA 450/2-78-033, December 1978
[http://www.epa.gov/ttn/naaqs/ozone/ctg_act/197812_voc_epa450_2-78-033_graphic_arts\(v8\).pdf](http://www.epa.gov/ttn/naaqs/ozone/ctg_act/197812_voc_epa450_2-78-033_graphic_arts(v8).pdf)
12. "Issues Relating to VOC Regulation Cutpoints, Deficiencies, and Deviations," (a.k.a., Bluebook) EPA OAQPS, May 25, 1988.
http://www.epa.gov/ttn/naaqs/ozone/ozonetech/voc_bluebook.pdf
13. "Guidance Document for Correcting Common VOC & Other Rule Deficiencies," (a.k.a., Little Bluebook), EPA Region 9, August 21, 2001.
<http://www.epa.gov/region9/air/sips/littlebluebook2001.pdf>